

## Claims

- [c1] A method of operating a tire pressure monitoring system comprising:  
 measuring a vehicle speed;  
 starting a timer;  
receiving a tire-identification; and  
 setting a tire status corresponding to said tire identification number to a rolling status, a pending rolling status, a spare and a pending spare in response to said timer and said vehicle speed.
- 112 1st  
 equality  
 obj's spec. LAB. + 112<sup>nd</sup>  
 [c2] A method as recited in claim 1 wherein setting a tire status comprises setting a first tire status to said rolling when a first tire message is missed and a second tire message is obtained. *where does the 1st & 2nd messages come from?*
- [c3] A method as recited in claim 1 wherein setting a tire status comprises setting the first tire status to spare when the first tire message is received, the vehicle is moving and a predetermined number of tire messages are not received when the vehicle is moving.
- [c4] A method as recited in claim 1 wherein setting a tire status comprises setting a tire status to the pending spare status after a missed message with no subsequent message after a predetermined time and the vehicle is moving.
- [c5] A method as recited in claim 1 wherein setting a tire status comprises setting a tire status to the pending rolling status when a count initiated when a message received and the vehicle is moving does exceed a predetermined count.
- [c6] A method as recited in claim 1 wherein said timer comprises a countdown timer.
- obj's  
 [c7] A method as recited in claim 1 wherein the step of receiving <sup>a tire</sup> ~~an~~ identification number comprises receiving an identification number not stored in a system memory.
- [c8] A method as recited in claim 7 wherein setting the tire status comprises saving the tire status in the memory.

- [c9] A method as recited in claim 1 wherein saving the tire status in a memory comprises saving the tire status and the tire identification number in the memory.
- [c10] A method of determining the position of a first tire in a tire pressure monitoring system having a plurality of tires in a plurality of rolling locations and a spare location comprising:  
detecting a vehicle speed;  
starting a timer;  
detecting a status of said plurality of tires;  
receiving a tire identification signal for a first tire;  
upon the expiration of timer and a vehicle speed indicative of vehicle movement, setting a pending spare status;  
when the first tire status is said pending status and the status of one of the plurality of tires has a pending rolling status, setting the first status to a spare status;  
when the first tire status is spare status, initiating the timer when the tire identification is received and the vehicle speed indicative of vehicle movement;  
when a predetermined number of tire identification signals are received, setting the first tire status to pending rolling and resetting the counter;  
when the status is pending rolling and the vehicle is not moving, setting the first tire status to spare; and  
when the first tire status is pending rolling and at least one of the plurality of tire statuses is pending spare, setting the first tire status to rolling.
- [c11] A method as recited in claim 10 wherein said timer comprises a countdown timer.
- [c12] A method as recited in claim 10 wherein setting the tire status comprises saving the tire status in the memory.
- [c13] A method as recited in claim 12 wherein saving the tire status in a memory comprises saving the tire status and the tire identification number in the memory.

- [c14] A tire pressure monitoring system for a vehicle comprising:  
a vehicle speed sensor generating a vehicle speed signal;  
a warning status memory having warning statuses therein;  
a timer generating a time signal;  
a spare tire having a spare tire transmitter generating a spare transmitter identification signal; and  
a controller coupled to the spare tire, said controller starting said timer in response to a missing signal, receiving the spare tire identification signal, setting a tire status to a rolling status, a pending rolling status, a spare status and a pending spare status in response to said timer and said vehicle speed signal.
- [c15] A system as recite in claim 14 wherein said controller associates a warning status with said tire identification number.
- [c16] A method for operating a tire pressure monitoring system comprising:  
associating a plurality of rolling tires with a respective plurality of moving locations and a spare tire with a spare location;  
generating a low warning status from one of the plurality of rolling tires;  
receiving a wake message from the spare tire after moving the spare tire to a rolling location;  
resetting the low warning status; and  
thereafter, generating warning statuses for each tire in the plurality of rolling locations.
- [c17] A method as recited in claim 16 wherein the receiving the wake message comprises generating the wake message in response to spare tire motion.
- [c18] A method as recited in claim 16 further comprising changing an indicator in response to resetting the warning status.
- [c19] A method as recited in claim 16 wherein resetting the low warning status comprises clearing a memory.
- [c20] A tire pressure monitoring system for a vehicle comprising:  
a warning status memory having warning statuses therein;

a plurality of tires in respective rolling locations, each of said plurality of tires having a transmitter;

a spare tire in a spare location having a spare transmitter;

a controller coupled to the spare tire transmitter and the warning status memory, said controller receiving a wake signal from a spare tire generated in response to spare tire movement, said controller clearing said warning status from the warning status memory and, thereafter monitoring the tires in the rolling locations and generating warning statuses therefor.